

W5YI

America's Oldest Ham Radio Newsletter REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

May be republished providing credit is given to *The W5YI Report*.

Fred Maia, W5YI, Editor, P. O. Box 565101, Dallas TX 75356
Electronic mail: <W5YI@w5yi.org> • Website: <<http://www.w5yi.org>>
Tel. 817-461-6443 FAX: 817-548-9594

In This Issue...

Petition: Unlicensed Ham Operation
Amateur Community Opposes Proposal
Cable TV Piped to Dormitory Computers
Walmart Offers \$199 Personal Computer
Cigarette Taxes Send Smokers to the Web
Schools Grudgingly Installing Web Filters
Preclude Business on Family Radio Service
"Third Generation" Wireless Frequencies
Congress Seeks to Enforce DTV Deadline
See What the World's Military Are Doing
FCC Amateur Radio Enforcement News
FCC Proposes to Block Telemarketers
Amateur Radio Call Signs to October 1st
Radar Detector Marketing Extension
"Ham Test Online" License Exam Program

Vol. 24, Issue #20

\$1.50

PUBLISHED TWICE A MONTH

October 15, 2002

Amateur Community Opposes Unlicensed Visiting Alien Operation

Dr. Michael C. Trahos, KB4PGC (General Class) of Falls Church, Virginia has filed a *Petition for Rulemaking* that seeks a Part 95 and 97 amendment to permit non-amateur, non-U.S. resident foreign nationals access to the 446.0 to 446.1 MHz band. This spectrum is currently allocated to the federal government for radar and military defense use and to the non-government Land Mobile and Amateur Service on a secondary basis.

The ARRL band plan calls for 446-MHz to be used as a National Simplex frequency and shared by auxiliary and control links and repeaters at a local option. The petition was accepted by the FCC on August 8th as appearing to have merit, assigned file number RM-10521 and circulated for preliminary comment.

Trahos notes that the *Conference of European Posts and Telecommunications* administrators permits the use of eight 12.5 kHz wide channels between 446.0 and 446.1 MHz in ITU Region 1 for Personal Mobile Radio (so-called PMR-446) two-way service. The 500-mw European short-range voice communications service is similar to our 14-channel Family Radio Service (FRS) which operates in the 462/467 MHz band. Due to the difference in frequencies, PMR-446 transceivers are not compatible with the FRS spectrum.

Mike Trahos is family practice physician and surgeon and is on the faculty of the Georgetown University School of Medicine. He also holds several commercial and amateur communications licenses, is a Fellow in The Radio Club of America

and "...has over 25 years experience in the telecommunications field with many of these years spent actively participating in Commission proceedings."

He notes that in 1995, the Commission created the license-exempt Family Radio Service (FRS) using fourteen 12.5 KHz wide channels from the 462.5500 - 467.7500 MHz GMRS band. After extensive deliberations in that proceeding, the Commission adopted the FRS Report & Order permitting the manufacture and use of license exempt radios having fourteen channels with a 500-milliwatt Effective Radiated Power (ERP).

According to the FCC, the Family Radio Service "...facilitates activities around the home, throughout the neighborhood, at group outings, and at activities where group members become separated, either planned or inadvertently." Originally proposed by Radio Shack and Motorola, the Family Radio Service has been incredibly successful with millions of low-priced FRS radios being sold to the public.

In 1998, the CEPT created a similar 500-milliwatt 12.5 KHz authorized bandwidth, license exempt service at 446 MHz. There are eight 12.5 kHz simplex frequencies which have been harmonized (but not necessarily authorized) for use across Europe. The channel centers are at: 446.00625, 446.03125, 446.05625, 446.08125, 446.01875, 446.04375, 446.06875 and 446.09375 MHz.

The United Kingdom also permits the inclusion of broadcast (AM/FM) radio receivers in PMR-446

THE W5YI REPORT [Pub. No. 009-311] is published twice monthly by The W5YI Group, Inc., 2000 E. Randol Mill Road # 608-A, Arlington, TX 76011
SUBSCRIPTION RATE: (U.S., Canada and Mexico) One Year (24 issues) \$24.50 • Two Years: \$45.00 • Three Years: \$64.00. • Tel. 817/461-6443
Foreign Subscriptions via Air Mail: \$39.50 per year. (Payment may be made by Check, Money Order, VISA or MasterCard payable in U.S. funds.)
Periodicals Postage paid at Arlington, TX. POSTMASTER: Send address changes to THE W5YI REPORT, P.O. Box 565101, Dallas, TX 75356

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #2

October 15, 2002

transceivers. The U.K. regulations clearly states: "Users who use their radios overseas, may break the laws of the country concerned, run the risk of prosecution and the confiscation of equipment."

In ITU European Region 1, the 446.0 - 446.1 MHz band is allocated to non-amateur land mobile radio services. In ITU Region 2, in which the United States resides, the 446.0 - 446.1 MHz band is allocated to the Amateur Radio Service on a secondary basis.

"Therefore, the use of FRS radios within ITU Region 1 and the use of PMR-446 radios within ITU Region 2 are illegal. However, these facts are generally unknown by the majority of the public who use these low-power transceivers."

Trahos said that while traveling in the UK he noted "...numerous United States citizens were operating their FRS radios, in violation of British radio regulations." He said he "was also able to receive, via ARS 440 MHz UHF equipment at Walt Disney World in Orlando, extensive transmissions from PMR-446 radios clearly operated by foreign nationals from the UK and France, operating in violation of the Commission's ARS rules and regulations."

"There appears to be no effort on the part of the Commission, or United States Customs authorities, to stop the illegal importation and use of these PMR 446 radios in the US," he said. "If the Part 97 ARS rules are not to be enforced, or more appropriately are deemed essentially unenforceable against traveling foreign tourists, then the Commission should legalize the current illegal use of PMR-446 radios by visiting non-amateur non-US resident foreign nationals in the United States."

He proposed that the FCC amend its Part 95/ 97 rules to "...permit the use of ITU Region 1 [FRS- like] PMR 446 radios in the United States by visiting/transient/ tourist non-amateur non-US resident foreign nationals on a license exempt secondary to ARS operations."

Trahos said that while he anticipates some opposition from the Amateur Radio community, his proposal would have a minimum impact on existing ARS operations and would further promote international good-will by not subjecting visiting non-amateur foreign nationals to unknown violations of the Commission's ARS rules. He asked for "the expedient issuance of a *Notice of Proposed Rulemaking*" in response to his petition.

Comments on RM-10521

Although filed last January, the petition was not put on *Public Notice* by the FCC until August 8, 2002. As of press time, there were 118 comments filed ...almost all by licensed radioamateurs who oppose the petition. Here is a sample (in some cases, paraphrased) of what they said:

- "It is unconscionable that a licensed member of our Amateur 'fraternity' would encourage further encroachment of our amateur spectrum in a scheme which has no merit. 'International goodwill' is a baseless reason for proposing further corruption of the amateur bands with

unlicensed privileges regardless of the minimal interference potential. If this sort of communications is desired or needed by our international visitors, then I suggest that the cost of domestic units for operation in the FRS is so reasonable that they should obtain compliant equipment"
— Gary V. Smith W6GVS (Dowagiac, Michigan)

- "...a rule change that would permit non-Amateur Radio licensees to operate unlicensed transmitters n Amateur bands is contrary to the fundamental regulatory structure of the Amateur Service [where] no one can operate an Amateur Radio station without a license, or without a licensed control operator present.

"Anyone from a CEPT country who wishes to operate a transceiver on Amateur bands in the United States is eligible to do so, provided that he or she possesses an Amateur Radio license from his or her home country.

"Non-technical, unlicensed persons operating transceivers in a core portion of once of the most popular and heavily-used Amateur Radio allocations is a formula for serious interference.

"There are no practical means of distinguishing foreign visitors from unlicensed persons wish to utilize Amateur bands but unwilling to obtain a license for the privilege... There are no call signs, and no identification of transmissions required in FRS or PMR-446. The Commission is in no position to undertake an enforcement burden of this magnitude.

If nothing else, this Petition reveals the problems that arise from the failure to harmonize allocations internationally." — ARRL, Chris Imlay, W3KD, General Counsel.

- "...the citizens of the United States are bound by the laws that they themselves have chosen. We are also bound by the laws of the nations we visit without exception to our nationality. The granting of this petition would be akin to allowing non-U.S. citizens, who do not hold a valid driving license anywhere, to drive in the U.S. and also break our speed limit laws. Just because it may happen, and it may be acceptable somewhere else, it does not mean we should change our laws." — James A. Pierson Jr. N1SZ, Centennial, CO)

- "I feel that the problem can be better controlled by educating foreign visitors to leave their radios at home, as well as additional training of U. S. Customs agents to be able to better identify PMR446 equipment being illegally imported into the United States. If PMR446 radios could be imported into the US without type acceptance registration, what prevents other foreign manufacturers from importing similar products that operate on other licensable frequencies?

"...U.S. Amateurs share the 420-450 MHz spectrum with the U.S. Military as secondary users. This proposal should be denied as a matter of national security." — Todd R. Ellis, N2XL (Cary, NC)

- "If this petition were it to be adopted, there would be created two classes of operators within a portion of this country's amateur radio 70-cm band: one class would be

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #3

October 15, 2002

comprised of licensed domestic operators, while the second class, to use petitioner's own language, would be license-exempt 'visiting/transient/tourist non-amateur non-U.S. resident foreign nationals' operating on a secondary basis to primary ARS operations.' How would the Commission differentiate between these two classes? Would mere possession of PMR-446 radio imply unlicensed status? Would one have to show some form of proof that one was a non-resident alien and thus entitled to operate such a radio without a license?" — **Paul R. Goodman, K2ORC (Maine, NY)**

- "Ignorance and disregard of the law should certainly not be a reason for legalizing an illegal activity that could disrupt the communications of a licensed radio service. Travelers are expected to know and respect the laws of the countries that they visit. To do otherwise is to risk arrest, prosecution, and worse. There is no reason for the nationals of CEPT countries not to know that it is illegal to use PMR 446 radios in non-CEPT countries." — **Philip E. Galasso, K2PG (West Creek, NJ)**

- "The petition lists only the ARRL 70-cm Band Plan as a source of information concerning United States amateur radio spectrum policy and usage. The ARRL is not a frequency coordinator. It is a political organization that represents some of the interests of amateur radio operators in the United States. ...The ARRL 70cm Band Plan is a watered down composite of what may or may not be in effect in the varied geographical areas of the U.S. by various recognized amateur radio frequency coordination organizations. And in many cases, it conflicts with detailed and authorized regional spectrum or band planning. Therefore, its inclusion and use as a basis for reasoning is erroneous and flawed." — **(H. Alex Hedrick, Jr., N8FWL, SERA, Beckley, WV)**

- "Americans could obtain European radio transceivers and use them as they wished. The only way to determine if they were legitimate users would be to find the individuals transmitting and ask them for their identification or passports. This is clearly a difficult process, so Americans would be free to use these European channels in addition to the American FRS channels listed in the appendix of these comments.

"The FCC should work through international regulatory channels to approach the issue of harmonizing the allocation of Family Radio Service frequencies. This could result in a sensible solution that would serve international travelers without negatively impacting busy amateur radio frequencies." — **Nickolaus E. Leggett, N3NL (Reston, VA)**

- "Why would we want to pollute the 70-cm amateur band with signals from unlicensed radios that weren't even made to be used in the USA? The last thing we need is non-radio savvy people trying to talk to each other with their illegal radios on amateur allocations!

"We also have problems keeping taxi drivers and fisherman off our two meter amateur band, and bootleg

"CBers" off of ten meters. Our governments have a lot of problems stopping people from speeding in their cars, stealing, murdering, and raping. Should we make these things legal too? This goofy reasoning defies logic and common sense." — **Brad Baker, KD6ZJN (Los Gatos, CA)**

- "There are areas in the United States that are prone to high concentration of tourists and foreign nationals on vacation. Those high concentrations of tourists using special FRS radios unlicensed on 446 MHz would be a possible interference threat to Amateur Radio Emergency Service volunteers in the likelihood that there was an emergency need for communication during a disaster or civil disobedience event." — **Dr. Jeffrey Atwood, KK2Y (ARES/RACES of Seminole County Florida)**

- "Not only would it add unnecessary interference to already heavily-trafficked spectrum, but it would, in effect, be changing the regulations throughout the entire United States merely to accommodate a few visiting foreign. The drawbacks outweigh any perceived benefits. This threat to the radio spectrum allocation was neither thoroughly considered nor examined for feasibility. In short, it is a bad idea." — **Jacob R. Lauser, KK7GP (Tucson, AZ)**

- "As an Amateur Frequency Coordinator for the South Eastern Repeater Association, Inc in the State of North Carolina, the usage of 446.000 to 446.100 is alive and well. During the recent ARRL UHF contest in August, I worked stations over 500 km from my location on 446 MHz FM. This band is used extensively by amateurs at emergency scenes for short range simplex communications, for cross band repeat functions, and at large amateur gatherings such as club meetings, hamfests and the like. Just because an equipment vendor has made radios that operate on frequencies for use in another country that happen to be on the amateur bands in the United States of America, are we expected to allow unlicensed operation of those radios here? I certainly hope not." — **Frank A. Lynch, W4FAL (Raleigh, NC)**

- "I don't know if Dr. Trahos has visited Los Angeles, but the UHF amateur band is heavily utilized in this section of the country, and the reservation of even 100 kHz of the center of the UHF 'repeater band' would find these PMR-446 type radios subject to severe interference from hilltop-based repeaters, as well as interference to these same repeaters, and existing simplex communications on 446.000 MHz. And no, there isn't room to move the repeaters out. The last time I checked, FRS radios were about \$25/pair at my local Wal-Mart, and it wasn't illegal for visitors to this country to buy them. Let visitors to our country use what is available to them here, instead of causing problems for many, to accommodate the few." — **Carl Swanson, K6CRS (Thousand Oaks, CA)**

- "There is no way we can allow non-amateurs from a foreign country to operate in the amateur bands, and not let our own non-amateurs operate there. I don't feel we should start letting go of frequencies we have fought to protect." — **Brian Cater, KC5YSM (Port Arthur, TX)**

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #4

October 15, 2002

CUTTING EDGE TECHNOLOGY

Northwestern University is providing dormitory students with 20 channels of cable television programming delivered to their computer screens. The new service, called NUTV, is delivered through the dorms' computer network at speeds comparable to cable television. Basic cable television is not otherwise offered in the dorm rooms.

AT&T Broadband cable programming will be specially encoded for digital distribution by a university-based video server. The service will not be free and the effort will help gauge consumer acceptance of such an arrangement.

The NUTV system was developed by Video Furnace of Libertyville, Ill., a company that creates digital video systems for educational, hospital or corporate networks that are not open to the public.

EMERGING COMMUNICATIONS

Southwestern Bell Corp., and Yahoo! Inc. have teamed up to launch a new broadband service that combines Yahoo! content with SBC high speed digital-subscriber-line access. SBC Yahoo! DSL, a custom, co-branded service is available to 1.7 million DSL customers in SBC's 13-state region.

The new includes a customized browser; a package of premium services, including navigation tools to help customers find broadband content; Yahoo!'s 'Super Webcam' video instant-messenger service; 'LAUNCHcast' Internet radio service; electronic mail, including remote access and spam filters; parental control; multiplayer games; and additional centralized storage space for subscribers' personal content and photos.

Cost is: \$42.95 monthly for basic (384 kbs downstream and 128 kbps upstream) service; \$49.95 for 384 kbps to 1.5 mbps upstream ...and \$59.95 for between 768 kbps and 1.5 mbps downstream, 256 kbps upstream.

A special launch promotion drops the fees for the first six months of service to \$29.95 for the lower two tiers and \$39.95 for the top tier, all with free modems and activation.

All existing Prodigy Dial-up ISP cus-

tomers were also recently converted over to "SBC Yahoo! Dial" service.

The Yankee Group predicts U.S. broadband subscriber market will more than triple within five years. Most users with a high speed broadband connection are now accessing the Internet with a cable modem.

In the United States, cable modem subscribers continue to outnumber DSL subscribers by a wide margin. The Yankee Group said cable's market share is 58 percent while about one-third of users are using digital subscriber lines.

At the end of 2001, more than 7 million consumers and 500,000 business subscribers were connecting via cable modem. Between the close of 2001 and the beginning of 2003, another 5.6 million U.S. broadband subscribers will be added to the 13.3 million that make up the installed base, Yankee said in its report.

More than 105 million homes in North America are passed by broadband coaxial cable plant and more than 75 million homes are cable TV subscribers.

Dial-up growth is slowing as Internet giants such as America Online, MSN and Yahoo Inc. step up their efforts to offer high-speed access and services.

The Yankee Group also estimated that the number of U.S. mobile phone subscribers will increase by 50 percent to 200 million by the end of 2006. It found that three percent of U.S. consumers have already discontinued use of landlines in favor of cellphones.

Understanding video resolution: Clarity is a product of the number of viewable horizontal scan lines times the number of picture elements (pixels ...small dots) per line.

A pixel represents the smallest piece of the screen that can be controlled individually. Each one can be set to a different color and intensity (brightness). Simply put, the more pixels per screen, the sharper the image.

VHS-tape format (at its best) records 240 lines of horizontal resolution, cable TV is around 300, satellite television is about 400, NTSC (traditional) broadcast television is about 320 lines of visible data, DVDs are 480, and the new HDTV broadcasts are either 720 or 1080.

There are also other advanced TV formats in two aspect ratios, 4:3 (regular "square" TV size) and 16:9 (widescreen.) For example: "Fox Widescreen" (an inno-

vation of the Fox network) is 480 lines (DVD-quality) in a 16:9 (wide aspect ratio) screen size.

Pixels per line: 4:3 standard TV has 640. 16:9 wide screen digital TV: "Fox Widescreen": 704, 720-line HDTV: 1280 and 1080-line HDTV: 1920.

The aspect ratio of the picture is defined to be the ratio of the picture width to its height. A 16 units wide by 9 units high (16:9) aspect ratio provides a one-third larger viewing area than a 4:3 (traditional NTSC) screen.

A 1080 line-by-1920 pixel HDTV format has a total of 2,073,600 pixels ...or about ten times more than traditional analog TV sets. But since a rectangular 16:9 screen has more viewing area than a square 4:3, a digital HDTV image is about six times sharper.

COMPUTERS & SOFTWARE

Citing slower-than-expected sales to both businesses and consumers, technology market researcher, International Data Corp., projected worldwide 2002 personal computer sales will come in around 135.5 million units. Compared with 134.1 million in 2001, the increase is a scant 1.1 percent - the smallest increase ever. (U.S. growth was only one-half of one percent.)

As recent as 3 months ago, IDC was predicting a 4.7 percent PC shipment gain for the year. Furthermore, IDC said PC sales during the crucial holiday selling season would be disappointing. The research firm also lowered its 2003 shipment estimate to a 8.4% gain, down from a prior 11.1% increase.

Walmart.com is offering a Microtel (Model No. SYSMAR710) 800 MHz Personal Computer with a Linux-based "LindowsOS" operating system pre-installed for only \$199.86.

Includes 128-MB of memory, a CD-ROM drive and a 10-GB hard drive. Designed for a broadband Internet connection. Includes keyboard, speakers and mouse, but a monitor, floppy drive and 56Kbps modem are not included. (Model with modem included is \$30 more.)

Bundled software at no additional cost includes mail, word processor, Web browser/file manager, address book, calculator, CD player, MP3 Player, PowerPoint viewer, Word viewer, Excel viewer and Image

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #5

October 15, 2002

viewer plus many games and additional ten applications at no charge from <Lindows.com.> (Comes with 1-year warranty.)

Available at <www.Walmart.com> and not in any of their stores.. Find it by searching "Electronics" for "Microtel SYSMAR710".

Microsoft is in the process of adding 5,000 employees and ramping up research and development spending by 20 percent in the coming year. Its R&D budget for fiscal 2003 is mushrooming to \$5.2 billion!

Microsoft's next PC operating system is already on the drawing board and already message boards and chatrooms are buzzing as word leaks out as to what is in store.

Code-named "Longhorn", it promises some dramatic changes in the way information is organized, retrieved and displayed. (That's if you believe all the unsubstantiated rumors!) For example, we heard that Longhorn screens will be more realistic by taking advantage of new 3D video hardware developments to render special effects. First beta release is supposedly scheduled for late next year.

Also featured will be a new proprietary "Trustworthy Computing," environment (code named: "Palladium") that protects the end user from privacy invasion, outside hacking, spam, and other electronic attacks. It requires special hardware security chips and microprocessors that will be made by Intel and AMD.

Palladium makes all Internet communication safer by essentially pasting a digital certificate on every application, message, byte, and machine on the Net, then encrypting the data even inside your computer processor.

Palladium will limit what arrives (and runs on) on your computer. It won't run unauthorized programs and information that comes in from the Internet will be verified before you can access it ...stopping viruses, worms and spam dead in their tracks. Unsolicited mail that you might actually want to receive will be allowed only if it has credentials that meet your pre-defined standards. Each PC has its own identity.

Palladium also controls information after it's sent from your PC. For example, new Digital Rights Management (DRM) technology will securely distribute music, movies, and other intellectual property securely over the Internet. DRM gives a

person who creates a piece of digital information the ability to specify the rules by which it gets used.

For example, Palladium could ensure that e-mail designated as confidential can not be forwarded or copied to other people ...or you could create documents that could be read only in a specified time frame before they self-destruct.

And that is only the beginning! There is a lot of futuristic thinking going on at Microsoft these days. If it catches on, Microsoft will have a lucrative licensing bonanza on its hands.

A Computer Recycling Bill awaits Gov. Gray Davis' signature that would add \$10.00 to the cost of a computer or television bought in California starting Jan. 1, 2004. There are indications he may not sign it.

Silicon Valley's technology industry says the \$10 fee will put local companies at a competitive disadvantage.

Environmentalists say the law is needed to deal with the more than six million discarded monitors and TV sets waiting to be recycled. It is illegal in California to put them in a landfill because they contain hazardous materials.

GADGETS & GIZMOS

The Virtually Perfect Golf (VPG) Learning System allows you to see exactly what you are doing and make corrections to your golf swing while you are swinging the club. It consists of a pair of virtual reality goggles, a wearable battery pack and a computer-generated 3-D model that is superimposed over the golf student.

The VPF system allows a golfer to see himself in real time inside an image of a golfer that has a perfect swing. The golfer aligns his body with that of his virtual teacher, who is programmed to go through the motions of a perfect swing. All the student has to do is duplicate the model's technique.

The virtual golfer appears as a yellow grid over the student's video image. If the student moves outside the perfect swing, those motions show up in red to draw the student's attention to problem areas.

The Virtual Golfer is designed to be used by golf teaching professionals and a one hour lesson would cost about \$100.

Designed in Canada, it will be available in the United States in the first quarter of 2003.: <www.virtuallyperfectgolf.com>

You'll never be at a loss for words anywhere you travel! The Gadget Universe has a pocket-sized 10-Language Talking Translator. Access any of 120 common phrases or type in your own sentences in English and the pocket-size translator speaks with a properly accented human voice in any of ten languages. Contains (4 lines x 14 character) LCD screen and miniature keyboard. \$99.95 from <www.topixonline.com>.

INTERNET & WORLD WIDE WEB

Napster may begin new life as a way to exchange porn rather than music. Private Media Group, a Barcelona, Spain adult entertainment company, has offered to acquire bankrupt Napster, Inc's trademark and Internet domain name for one million shares of its stock (worth about \$3 million), which it would then use to create a network for users to swap adult materials. They hope to cash on Napster's notorious reputation as a file-sharing leader. Corporate website located at: <http://www.prvt.com>.

Private Media Group, a publicly-owned company (Nasdaq: PRVT) wants to dominate the highly fragmented \$60 billion market. Operating in 35 countries, they are the unquestioned king of adult entertainment.

Besides having dozens of websites, Private Media has expanded into cable, satellite, hotel and 3-G cellphone broadcasting, magazines, Hollywood-style movies, sportswear, novelty items, DVDs and recently opened an online casino at: <www.privatecasino.com>. Their "Private Gladiator" movie (introduced at the Cannes Film Festival) used props from the original "Gladiator" production.

They even have a home shopping network in Scandinavia. Forbes magazine listed Private Media to its third annual "Top Twenty 2002" list of the world's best small companies.

High cigarette taxes are resulting in astronomical online sales. Traditional cigarette sales in many states are dropping fast due to more than a hundred online discount sites. Cigarette taxes in tobacco growing states is low: only a nickel-a-pack in North Carolina ...3 cents

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #6

October 15, 2002

in Kentucky and 2½ cents in Virginia. See: <www.americancigaretteshop.com> and <www.nccigarettes.com>.

And more than half of all online cigarette sales sites are now based on Indian reservations where, according to the federal Bureau of Indian Affairs, purchases are totally tax-free. "All sales transactions take place on Sovereign Native Territory are not reported to anyone," says <ecig.com>. Examples of other Indian websites include: <www.senecasmokes.com>, <www.cigarettespecials.com>, <www.cheap-discount-cigarettes.net> and <www.cigaretteshop.com> ...but there are tons of others.

Another - and even lower price - source of online name-brand cigarettes are those manufactured in Europe and imported back into the United States. See: <discount-marlboro-cigarettes.com>, <www.allsmoke.com>, <www.smokefarm.com>. Philip Morris USA has recently sued several websites that market European-made Philip Morris cigarettes.

The 54-year-old federal Jenkins Act requires online cigarette retailers to furnish purchase records to customers' home states so officials can collect state and local taxes. State officials then use this list and sends bills to recoup unpaid taxes. But the penalty is a misdemeanor and the law is being widely ignored and unenforced.

On July 1, the New York City increased its tax on cigarettes from 8 cents a pack to \$1.50. Coupled with a state tax that was also bumped up to \$1.50 four months earlier, the average price of a pack in New York City is now \$7.50 ...that's \$75 a carton, the highest price in the nation!

Online cigarette cost is about half price or less ...\$15-\$25 a carton for generic brands, \$30 for premium. Customers must check a box to certify they are at least 18 years of age.

Forrester Research says online cigarette sales will top \$1 billion this year and exceed \$5 billion by 2005, accounting for 14 percent of total sales.

WASHINGTON WHISPERS

Schools are installing Internet filters, but they are not happy about it. The federal Children's Internet Protection Act (CIPA) requires filtering in libraries and schools or face loss of govern-

ment "e-rate" computer and internet subsidies that are funded through telephone surcharges. The American Library Association appealed and a federal court in Philadelphia struck it down as being "facially invalid" under the First Amendment and permanently enjoined the government from enforcing the provisions.

The three-judge panel in the CIPA case held that the FCC cannot withhold funds on the grounds that a public library has failed to install mandatory filters on every computer. The Court ruled that "because of the inherent limitations in filtering technology, public libraries can never comply with CIPA without blocking access to a substantial amount of speech that is both constitutionally protected." The FCC appealed and the CIPA is now before the Supreme Court.

But the requirement for schools was never challenged so the government-mandated filtering became law. Schools say that the filtering generally does not work and affects student ability to conduct research on the Internet. At least one school district, in Eugene, Ore., has rejected the e-rate grants — about \$7,000 — rather than expand filtering to all schools.

On September 17th, the FCC circulated a Petition for Rulemaking (assigned RM-10564) for initial public comment. **The Industrial Telecommunications Association (of Arlington, VA) requests that the FCC amend the Part 95 rules to restrict businesses from using the overcrowded Family Radio Service "...to preserve FRS spectrum for its intended marketplace and use."**

"It is vital for the protection of FRS frequencies, that daily business communication needs be met through existing frequency allocations suited for daily business activities." ITA is in the business of coordinating business band applications and (reading between the lines) may be losing business to the unlicensed Family Radio Service.

One comment has already been filed opposing ITA's proposal. Franklin E. Brody, N1BBQ (Thomaston, CT) is also a licensed commercial UHF user. He says:

"Many small businesses have already found that the small-footprint and excellent in-building propagation on the assigned Family Radio Service UHF frequencies greatly enhances their business without unduly interfering with other personal users."

"These small businesses do not need the longer range and increased complexity and cost of other frequency coordinated business bands. The ability to check stock, talk with employees at the loading door and parking lot at low cost and complexity greatly enhances the daily productivity at these small (many family-owned) businesses. The business use I have seen, where FRS is a good fit, typically requires a usable range of no more than 200 meters." He claims that FRS frequencies are not congested.

"The FCC already lacks sufficient resources to enforce the current use of FRS. Adding yet another non-technical regulation will just result in increased expense to the commission (read: taxpayers). Regulations that are not being actively enforced merely create an atmosphere that encourages non-compliance amongst users."

The next wireless gold rush is "3G" ...the third generation advanced mobile wireless services that is to bring broadband Internet access to portable devices by means of one or more radio links. 3G promises Dick Tracy-style videophones, CD-quality audio, mobile Internet access, and even movies on demand — all in the palm of your hand.

The NTIA (National Telecommunications and Information Administration), the Dept. Of Defense, the FCC and the Executive Branch have finally identified two segments for 3G in the U.S. The plan is to allocate a total of 90 MHz of spectrum from the 1710-1770 MHz band for the base station part of 3G and the 2110-2170 MHz band for the hand-held units.

Spectrum that will be reallocated for 3G services will be auctioned. Although the current auction deadline for the 1710-1755 and 2110-2155 MHz band is September 30, 2002, the Bush Administration wants to postpone this deadline until September 30, 2004.

With the electronics industry failing to come to a consensus on a digital copy-protection solution, **Rep. Billy Tauzin (R-La.) and ranking Democrat Rep. John Dingell of Michigan have proposed wide-ranging legislation to get the digital-television transition back on track.**

Tauzin, chairman of the powerful House Energy and Commerce Committee, basically said if manufacturers and content providers can't agree, Congress will legislate an answer.

Tauzin's bill calls for the adoption of a

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #7

October 15, 2002

marker called the "Broadcast Flag," an end to analog television compatibility and increased cable interoperability. Embedded in digital television signals, the broadcast flag will prevent people from recording a TV show or movie and then re-broadcasting it over the Internet.

The Broadcast Flag was created by the Advanced Television Systems Committee (ATSC), the same standards-setting organization that developed the technical specifications for high-definition digital television (HDTV) in the U.S.

The new signals would only be able to be picked up by digital TVs and recording devices that included the built-in anti-piracy feature. Home DTV viewers will still be able to time-shift, but they won't be able to send programming online.

The idea is to protect their intellectual-property rights of Hollywood studios and TV producers by preventing a "video-Napster"movies that can be copied and redistributed freely over the Internet. See the Motion Picture Association of America's website at <www.mpa.org> for more on the broadcast flag.

The Carmel Group sees big gains ahead for the personal-video-recorder market, growing from a U.S. household penetration of 1.5 percent by the end of this year to 25 percent in 2008.

Tauzin's bill also legislates analog televisions out of existence by requiring broadcasters to transmit digital signals by the beginning of 2006, and requires them to cease standard, analog broadcasts by the end of that year. That means that standard televisions and VCRs would be obsolete in five years.

Congress has an ulterior motive. They want to be able to sell the airwaves the broadcasters currently use for analog transmissions which will bring billions to the U.S. treasury.

The bill has very little chance of moving this year, however, because Congress is scheduled to end this session in October. A new session of Congress begins next January, and the beginning of a new session requires a new start on all legislation.

A controversial online non-profit military watch group, located at <www.Globalsecurity.org>, keeps tabs on what the world's armed forces are doing and their capabilities.

It used to be that only a couple of countries had sophisticated spy satellites capable of taking detailed snapshots from space. Financed by contributions from

various foundations and the public, this site lets the world's leaders and journalists know about highly sensitive military activities using publicly-available commercial satellite imagery. All information on the site is free of charge.

For example, the U.S. is apparently expanding an American air base in the Persian Gulf state of Qatar. The images show the base, al-Udeid, has new aircraft shelters, storage tanks and parking ramps.

A law that seeks to declare parts of the earth off limits to U.S. commercial satellites is believed to be unconstitutional. But even if lawful, many countries now – or shortly will – have spy satellites in operation, the images from which could be made available to the enemy. The Pentagon is clearly concerned about Global Security's website and is looking for ways to deal with it.

You can even see satellite images of your own city or county at <www.space-imaging.com>. Taken from space by a commercial earth-imaging satellite, resolution can distinguish objects on the Earth's surface as small as one meter in size.

Another website located at <www.periscope1.com> keeps track of the world's military forces including their troops and weapons. Its database lists the armed forces and military organizations of every major country (complete with maps) and more than 5,000 weapon systems in use worldwide. The information is available to anyone by subscription.

AMATEUR RADIO NEWS

The U.S. Space Shuttle Atlantis has been moved onto its launchpad at the Kennedy Space Center for planned lift-off in early October. The crew of six includes one ham, Dr. David A. Wolf, KC5VPF (Technician) of Houston, Texas. He is both an Electrical Engineer (Purdue University) and a Medical Doctor (Indiana University.)

The 11 day mission will deliver the S1 (S-One) Truss to the International Space Station. It is one of several backbone hardware structures that will be attached to the ISS. The STS-112 crew will perform three spacewalks to install, activate and outfit the S1. It is the 15th shuttle mission to visit the space station. If launched on time, return is scheduled for October 13.

Following STS-112's departure, the Russian Soyuz 5 Taxi Flight will visit the station in late October. That is the flight that was supposed to have included N'Sync's Lance Bass, KG4UYY. But he won't be visiting the ISS as the U.S. pop star's financial backers failed to come up with the cash Russian space officials were demanding for his training and flight. The Russian Aviation and Space Agency formally notified NASA Sept. 6 that it has removed Bass from the crew.

Astronaut Peggy Whitson, KC5ZTD, a member of the current Expedition Five crew, will return home on STS-113 which is slated to arrive at the station in early November. The other two Expedition Five crew members are also hams, Russian cosmonaut and crew commander Valery Korzun, RZ3FK, and cosmonaut Sergei Treschev, RZ3FU.

STS-113 will also deliver the Expedition Six crew which includes Ken Bowersox, KD5JBP, Don Pettit, KD5MDT and Russian cosmonaut Nikolai Budarin, RV3DB.

The Miami Herald reported that the National Hurricane Center in West Miami-Dade County relayed accounts of houses being swept away by wind and rain in Cuba as a result of Hurricane Isidore. "Many roofs are flying at this time, and some small houses and warehouses have been destroyed," a resident of the coastal town of Cortés said in an amateur radio transmission monitored at the hurricane center by radio operator José Deschappelles, W2JD."

Memphis TV station, WREG Channel 3 did a nice on-air piece on the value of ham operators during a weather emergency. It covered how Bill Hancock, WA4MJM of Collierville, TN was collecting information on the 20-meter Hurricane Net about Hurricane Isidore and providing eyewitness accounts to the National Weather Service.

"You can see the stuff from the air but you can't exactly tell what's happening on the ground," Bill said. "In some cases of disaster ham radio is the only communication left standing which speaks to how invaluable this type of communication is."

And KPLS-TV, Lake Charles, Louisiana also covered how Lucky Young KA5SUR and his wife, Aris KB5RXS were preparing for Hurricane Isidore. "Along with 65 other members of the Southwest Amateur Radio club, they are set up with the Red cross, police, fire de-

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #8

October 15, 2002

partment, hospitals, National Weather Service and the Office of Emergency Preparedness," KPLS said.

The Shelby (North Carolina) Star reported that some 14,000 ham radio enthusiasts showed up at the 46th annual Shelby Hamfest held Labor Day weekend at the Cleveland County fairgrounds. The annual affair is sponsored by the Shelby Amateur Radio Club.

FCC Amateur Enforcement News

Scott E. Kamm, NØUGN (Sioux City, IA) has had his Amateur Radio license renewal application placed on hold. That action is based upon recent complaints about his activities and questions regarding his qualifications to be a ham operator. Kamm was earlier warned by the FCC for transmitting on 156.300 and 174.000 MHz without a license, and jamming an Amateur repeater operating on 146.910 MHz. The FCC now says it has information that he provided radio equipment to an unlicensed minor and instructed him on how to operate on the Marine Band and other frequencies. Kamm denies the allegation.

Thomas G. De Lasaux, WA6SEK (Stockton, CA) is apparently operating two uncoordinated repeaters on 224.660 and 441.275 MHz. These are causing interference to WB6 GUM and K6BEN, both of which are coordinated.

The FCC wants to know if (1.) he has received complaints about his 224.660 MHz and 441.275 MHz operation and, if so, what action he has taken to resolve them and (2.) if his repeaters are not coordinated, what action he has taken to obtain coordination. The FCC also wants complete details on his repeater systems, "...including all sites, links and addresses, using diagrams where necessary."

Daniel Granda, KA6VHC (Whittier, CA) has complained to the FCC about interference from two repeaters: KD6ZLZ repeater operating on 223.82 MHz and the WA6NJJ repeater on 223.84 MHz. The FCC says it also has received complaints that Granda has "...caused deliberate interference to the KD6ZLZ repeater by re-broadcasting the transmissions from another repeater and sending lengthy one way broadcasts." The FCC consolidated the two complaints.

Granda contends that the FCC "...has on file a judicial resolution confirming that the group '220 MHz Spectrum Management Association' did discriminate against

our club and other Spanish language repeaters'". But the FCC says they have no such document on file.

While Granda contends his repeater is coordinated – and submitted old documents to establish coordination – the FCC wants to know if his KA6VHC repeater is currently coordinated and by who. There also appears to be a question concerning the identity of the recognized frequency for his area and the FCC asked for full information on the "220 MHz F.C.C." organization.

Granda was cautioned that "...any deliberate interference to other repeaters will result in enforcement action" against his license and that "...frequency coordinations are not frequency 'allocations' or 'assignments'. They are neither lifetime grants nor are they issued in perpetuity."

James D. Grandinetti, KZ2P, (Naples, FL) has been directed by the FCC to respond within 30 days to a multitude of complaints about his station operation on 14.336 MHz. The complaints allege, among other things, that he has harassed and 'banned' certain operators while he is operating as 'Net Control' of the Mobile Emergency and County Hunters Net.

The FCC reminded Grandinetti that "...the frequency 14.336 MHz is a shared Amateur frequency. Operation of a net on that frequency conveys no greater rights regarding your use of it than any other licensed Amateur."

The FCC also asked for details on the "Atlantic Amateur Association," the need for the K2PG club call sign and a list of any other club call signs licensed in his name as trustee.

Jeffrey W. Kincaid, WA6BIL (Hawthorne, CA) has been asked to justify all of the club call signs he was granted on the same day in the name of the Palisades Amateur Radio Club and South West Amateur Transmitters. Among them are W6GAA, KG6CUS, KG6CUT, WA6KSB, WA6ZRC, WA6ZQT, WA6ZRB, WB6ZQU, KG6CUV, and KG6CUU. The FCC asked for "...a list of the names, addresses and telephone numbers of the [club] members, meeting times and dates within the past year, proposed meeting times and locations within the coming year, and copies of minutes, if any, taken at meetings within the past three months for each club." The FCC said Kincaid could "...request cancellation of any unneeded or inactive club call signs" and that it would cancel the club

call signs if he had not responded satisfactorily within 30 days.

Jamie H. King, Jr. of New Bern, NC had his W4JHK "Vanity" call sign W4JHK canceled and his previous KG4RLJ call sign reinstated. King had stated that he was the "Former primary station holder" and thus eligible for the call sign. He explained that he mis-interpreted the line on the form as meaning "...any primary station license, regardless of call sign, issued at a date earlier than the application." The FCC noted that the form contains the statement "This call sign was previously shown on my primary station license".

Patty A. Macklin, KC2GLQ (Jeffersonville, NY) was sent an FCC Advisory Notice for failing to properly identify her station on June 17, 2002 on 3.860 MHz. She was asked to review the rule that "...requires identification at the end of each communication and at least every ten minutes during a communication."

Thomas P. Neuhaus, WB2CLN (Flushing, NY) was again warned about the use of obscene and indecent Amateur Radio transmissions. On August 28, transmissions from his stations were monitored on 3.860 MHz and recorded.

The FCC noted that "...you have apparently ignored Warning Notices issued to you by the Commission on July 10 and December 6, 2001." Neuhaus was directed to review the recordings (being sent under separate cover) and to provide a detailed written response to the FCC within 20 days of receipt.

"The information you submit will be used to determine what action we take in this matter. That action may include monetary forfeiture, modification of your license to prohibit voice operation, or revocation of your station license and suspension of your operator privileges."

The FCC again advised Neuhaus that "any obscene, indecent or profane language by means of radio communications" are prohibited by law. "To be obscene, material must meet a three point test: (1) an average person, applying contemporary community standards, must find that the material, as a whole, appeals to the prurient interest; (2) the material must depict or describe, in a patently offensive way, sexual conduct specifically defined by applicable law; and (3) the material, taken as a whole, must lack serious literary, artistic, political or scientific value."

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #9

October 15, 2002

FCC LOOKS INTO BLOCKING TELEMARKETERS

Thousands of consumer complaints have prodded the FCC to join with the Federal Trade Commission (FTC) to consider adopting new laws restricting annoying telemarketing calls. A *Notice of Proposed Rulemaking* issued on September 12 asks the public for their views on how it should be done.

The Commission said it is seeking to enhance consumer privacy protection while avoiding imposing unnecessary burdens on the telemarketing industry and consumers.

The current law applying to telemarketers, the *Telephone Consumer Protection Act*, was passed more than a decade ago. Congress granted the FCC the power to create a national no-call registry when it passed the TCPA in 1991 but it was never implemented. Instead, the FCC chose instead to permit consumers to opt out of telemarketing calls on a company-by-company basis.

"Telemarketing practices have changed significantly," said FCC Chairman Michael Powell. "The number of telemarketing calls received by consumers have increased exponentially and the technologies used by telemarketers have become more sophisticated." At the same time, the new telemarketing techniques have increased public concern about the impact on consumer privacy.

Commissioner Kathleen Abernathy said she was "...increasingly concerned about the possibility of telemarketing calls to wireless phones by autodialers or using prerecorded messages. There have been sporadic reports of violations of our current ban on such calls." She said that "...when local number portability is implemented for wireless devices late in 2003, telemarketers will not be able to readily distinguish landline phone numbers from wireless numbers."

The FCC specifically asked in the NPRM for public input on whether it should update its restrictions on the use of autodialers, prerecorded messages, and unsolicited facsimile advertisements "...to account for technological developments in recent years and emerging telemarketing practices."

It also asked whether it should establish a national do-not-call (DNC) list to reduce the nuisance of unwanted telephone solicitations. And, if so, how such action might be taken in conjunction with a similar FTC proposal put forth in January and the various DNC lists that exist in twenty-seven states.

The *Direct Marketing Association* strongly opposes a national do-not-call list and condemned the FTC and FCC for seeking government regulation in an area that the private sector can handle. "Any new government regulation of this already heavily regulated industry must take into account the millions of jobs and thousands of companies at stake," the DMA said.

The DMA, which has 4.8 million consumers on its own voluntary *Telephone Preference List*, said a manda-

tory national registry would illegally restrict its members' right to free speech. Their TPS is in the process of being expanded to include numbers registered with state DNC lists.

The FTC ruling on a National DNC Registry could be made within 30 days and be in operation by early next year. But their jurisdiction is limited and would not cover calls made by telecommunication firms, financial institutions and insurance companies. The FCC has broader authority over these areas.

Under the FTC plan, consumers would call a toll-free telephone number to get their name removed from various telemarketing sales lists. Telemarketers would be required to check the DNC registry monthly to update their own lists of people who don't want to be called.

The registry would be financed by a fee paid by telemarketers. Those that ignore the National DNC Registry could be fined as much as \$11,000. Current rules require that consumers tell each telemarketer when they call that they want to be put on a do-not-call list.

The FCC noted that, should the FTC take further action on its proposed do-not-call registry or make other revisions to its *Telemarketing Sales Rule*, the FCC may need to seek additional comment.

AMATEUR RADIO STATION CALL SIGNS

...sequentially issued as of the first of October 1, 2002:

District	Extra	Advanced	Tech./General/Novice
0	AB0WV	KI0SK	→ KC0OCQ
1	AB1BO	KE1ME	→ KB1IUC
2	AB2PQ	KG2RR	→ KC2KFX
3	AA3ZZ	KF3ED	→ KB3IOW
4	AG4VX	KV4GM	→ KG4VER
5	AD5LZ	KM5XT	→ KD5TXJ
6	AE6IN	KR6FD	→ KG6NIU
7	AC7VZ	KK7XI	→ KD7SSM
8	AB8PS	KI8KD	→ KC8UUU
9	AB9GO	KG9QU	→ KC9CKV
Hawaii	→	AH6RO	NH7OK WH6DGT
Alaska	→	AL7RR	KL1JJ WL7CVQ
Virgin Isl.	→	KP2CS	NP2MG WP2AIP
Puerto Rico	WP3Z	KP3BN	WP3UJ WP4NOZ

[Source: FCC Amateur Service Database, Washington, DC]

- **Roberto U. Beviglia - LU4BR, president of the Radio Club Argentina** writes: "As a result of a rule proposal made to the C.N.C. [*Comisión Nacional de Comunicaciones*] by the Radio Club Argentina, a portion of the 136 kHz band has been allocated to the Amateur Service on a secondary basis in Argentina. The segment of 135.7 to 135.8 kHz will be coordinated by the Radio Club Argentina until it is finally assigned on a primary basis, in a term of one year." Website: <www.lu4aa.org>.

W5YI REPORT

America's Oldest Ham Radio Newsletter

Page #10

October 15, 2002

RADAR DETECTOR MARKETING EXTENSION

The FCC has granted a thirty day limited waiver (until October 27, 2002) of the new rules which tightened up the emission limits for radar detectors. It denied Radio Shack's request to permit non-compliant radar detectors to be sold for an additional six months beyond the deadline. Also denied was a request from RADAR members to delay the effective date of the new rules.

Those rules require that radar detectors be certified as complying with tightened emission limits to protect very small aperture satellite terminals (VSATs) in the 11.7-12.2 GHz band from interference.

Most radio receivers contain one or more oscillators that generate radio frequency signals that are intended to be used internally within the device in tuning a received signal. These generated signals can radiate from the receiver and can interfere with other nearby receivers. For this reason, Part 15 of the Commission's rules requires certain receivers to meet radiated emission limits to minimize the possibility of interference.

The rules previously did not require receivers that tune above 960 MHz, such as radar detectors, to comply with these limits because most tuned only below 960 MHz. However, the FCC found that some radar detectors produce harmful interference in the VSAT downlink frequency band.

The new rules require that, effective August 28, all radar detectors manufactured or imported into the United States must be certified to demonstrate that they meet the new emission limits and, effective September 27, only radar detectors that are in compliance with the new rules may be sold.

The FCC estimated that there are up to 300,000 non-compliant radar detectors in the marketplace to be sold and these will cause substantial additional harm to VSAT operators.

RADAR wanted the manufacturing/importation deadline changed to December 31, 2002, and that either no sales cut-off date be set or that it be changed to July 1, 2003. It was concerned about the many radar detectors in the distribution pipeline could take up to a year to sell.

RadioShack stated that an average lead time of six months is required from ordering a product to stocking the shelves, making it impossible to sell, remove or stop the distribution of inventory and restock with compliant units in the established timeframe. RadioShack said it had over 100,000 radar detectors worth several million dollars that it would not be able to sell.

The Commission did, however, agree to a 30 day limited waiver for a period of thirty days, until October 27, 2002

Commissioner Kevin Martin did not completely agree with the FCC's decision. He said that the Commission failed to take into account the substantial economic losses to Radio Shack Corporation and that he would have given Radio Shack more time to sell its products.

"HAM TEST ONLINE" EXAM STUDY PROGRAM

A Boston-based software company, J. Cunningham & Assoc., has launched <www.hamtestonline.com> that helps ham radio enthusiasts prepare for U.S. amateur radio written exams.

The online computer training is a little different than other ham practice test generation programs in that HamTestOnline keeps track in its database of which questions you have seen, which ones you have learned, and which ones you get right and wrong. Even if it has been weeks since your last session, HamTestOnline's database remembers your study history.

Other online ham test programs give you questions at random. With over 1,500 questions in the question pools, you can take 100 randomly generated, simulated tests and still not see all the questions.

HamTestOnline operates entirely online – there is no software to download or install. It is easy to use – one click records your answer, provides very limited feedback, and presents the next question.

The Website includes all questions from the latest Technician, General, and Amateur Extra question pools. The site offers a free trial, which includes 20% of the questions from each question pool. A paid subscription of \$19.95 provides access to all questions in all three question pools for a period of 2 years. The site offers a money-back guarantee if you are dissatisfied.

We tried the program and it is indeed a little novel. For example, there is a 50/50 feature where if you do not know the answer, you can press the 50/50 button and two wrong answers are eliminated ...very similar to the *Who Wants to be a Millionaire* TV program. If you don't know the answer, you can also just press the "Show answers" button along with any explanatory information available for that question.

The program presents questions based on their current scores and on the elapsed time since they were last asked and tries to avoid repeating any question too soon. It repeats questions with low scores sooner than questions with higher scores. Any associated diagrams are presented on screen.

The "Session score", displayed in the lower right-hand corner of the screen, shows how many questions you answered correctly, without assistance, the first time they were presented in the current login session. Once you have begun to master the material, your session scores will rise. Once they turn green (70% or better), you'll have an idea how ready you are for the test.

HamTestOnline offers a free trial, which includes 20% of the exam questions. This lets you see how the program works before you purchase. It costs \$19.95 *per person* to gain access to all questions for 2 years.

We liked the program, but thought the explanations of the correct answers were extremely weak or non-existent. Explanations, if any, are contained in a single line. It is basically a tool to help you memorize the answers.